UNITED STATES PATENT AND TRADEMARK OFFICE

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10/597,146	07/13/2006	Raymond Joseph Elisabeth Habets	NL040071	6749

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EXAMINER
BITAR, NANCY

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 May 2008*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 May 2008* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Drawings

1.   The drawings are objected to because figure 1 does not comply with 37 CFR 1.84(o)

where suitable descriptive legends may be used subject to approval by Office, or may be

required by the examiner where necessary for understanding of the drawing. They should contain

as few words as possible

Examiner Notes

2.   Examiner cites particular columns and line numbers in the references as applied to the

claims below for the convenience of the applicant. Although the specified citations are

representative of the teachings in the art and are applied to the specific limitations within the

individual claim, other passages and figures may apply as well. It is respectfully requested that,

in preparing responses, the applicant fully consider the references in entirety as potentially

teaching all or part of the claimed invention, as well as the context of the passage as taught by

the prior art or disclosed by the examiner.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

4.   Claims 8-10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention. Regarding claim 8, the phrase "as such" renders the claim indefinite because it is

unclear whether the limitations following the phrase are part of the claimed invention. See

MPEP § 2173.05(d). Appropriate correction is required. Claims 9 and 10 are indefinite because it

is unclear to the nearest what applicant meant and what did he mean by smartly docking.

Because of the limitation "smartly docking the measurement object to the nearest" is unclear

what feature or element is being further defined by this claim language, so that the claim fails to

clearly point out and distinctly claim applicant's invention.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6.   Claims 1-14 are rejected under 35 U.S.C. 102 (b) as being anticipated by Plet ET al (EP

1349098).

As to claim 1, Plet et al teaches a method of processing user interaction in a medical

environment with a medical image for producing measurement data related to graphics on the

medical image, wherein the graphics on the medical image comprises at least one graphic object

(figure 2, paragraph [0095-0098]) , said method comprising the step of removably attaching at

least one dynamic measurement object based on said measurement data to said graphic object (In

one embodiment, all user-requested measurement points are mapped prior to generating the

measurement objects that depend on them. All measurement objects are highlighted on the

digital sketch upon which a copy of the object is generated and the user is requested to drag and

adjust the copy to its corresponding position in the actual radiographic image. When all

measurement points are available, the depending measurement objects are generated and the

result of the measurement operators is computed, paragraph [0062]).

As to claim 2, Plet et al teaches the method according to claim 1, wherein the user interaction is cursor controlled and the medical image is displayed on a medical examination apparatus (display, figure 1, the enhanced placement mode is achieved by hinting the user as to the position of a constituent point of a measurement object by confining the placement to a set of points or objects defined by the graphical construction defined so far. These set of geometric objects are called the geometric loci of a geometric problem, paragraph [0068-0074]).

As to claim 3, Plet et al teaches the method according to claim 1, wherein said graphic object being associated with at least one anatomical structural element of medical objects on said medical image (In this representation the anatomy is schematically depicted as a collection of outlines of bone and other radiologically well-manifested landmarks. The measurement objects are drawn superimposed onto the anatomical outlines, paragraph [0045]).

As to claim 4, Plet et al teaches the method according to claim 1, wherein the measurement data is derived from said graphic object (paragraph [0054-0055]).

As to claim 5, Plet et al teaches the method according to claim 4, wherein the graphic object is a point, a line, a curve, two intersecting lines, or a contour (line, circle, ellipse, analytic curve, paragraph [0050]).

As to claim 6, Plet et al teaches the method according to claim 4, wherein the measurement data that is extracted from the graphics object is a line length, a curve length, an angle delimited by two intersecting lines, an area delimited by a contour or a profile along a line or a curve, a diameter, a perimeter, an area, a volume, or grey value profiles (figure 3; pure measurement operation and arithmetic measurement operations, paragraph [0050-0053]).

As to claim 7, Plet et al teaches the method according to claim 1, wherein the

measurement objects are moved between or interconnect different graphics

objects supporting the same measurement type, or transferred between different

positions of a single graphics object (figure 3, paragraph 0127]).

As to claim 8, Plet et al teaches the method according to claim 7, wherein the graphics

object being a line or a curve as such and the measurement object the length of the line, the

graphics object being two intersecting lines and the measurement object the angle enclosed in a

quadrant between the two lines, or the graphics object

being a contour curve and the measurement object being the length of the

contour or a diameter line interconnecting different points on the same contour

curve or one point on said contour curve and another point on a further contour

curve (paragraph [0050]; note that Curves in 2D and surfaces in 3D with a more complex shape

may be described by piecewise polynomial subdivisions of a desired object shape, each of the

curve segments defined by a control polygon and a basis of interpolating blending functions to

establish the relationship between the curve and the control polygon. The control polygon for

cubic splines consist of 4 points which may either be defined by methods outlined above, or may

be derived on the basis of least-squares fitting. Of particular interest is the approximation of an

object shape in the image with a fitting B zier or spline shape based on the edge points of the

object. Distance of an open-ended curve may be computed as the curvilinear path length defined

as the path length integral between 2 points lying on the curve. An angle between two lines

tangent to the curve at a two points, may likewise be calculated based on the derivatives of the

curve's analytic function). Moreover, Pet et al teaches, derived points are the result of

geometrical calculation based on available graphical objects. Examples are the intersection of

two lines, the intersection of a line and the perpendicular of a line through a given point etc. The

procedures to locate a certain point as a geometric locus are defined in the methods of the point

class, paragraph [0048]).

As to claim 9, as best understood, Pet et al teaches the method according to claim 1

comprising smartly docking the measurement object to the nearest, and at least one, from a set of

graphic objects supporting a specific measurement associated with that measurement object.

(paragraph [0045]; Setting snap to lines or other graphical entities has a similar effect: e.g. the

line tangent to a circle (there are two such lines) through a given point is selected when moving

the cursor nearest towards the intended tangent point, and a mouse click will teleport the cursor

onto that tangent point on the circle, after which drawing of the tangent line completes the

drawing of the line measurement object, paragraph [0071]).

As to claim 10, Pet et al teaches the method according to claim 9, comprising docking a

smart length measurement object to any graphical object in the image that supports measuring its

length, docking a smart distance measurement object to the two nearest graphic objects

supporting a distance measurement, docking a smart diameter

measurement object to contours, circles, spheres, tubes, or docking a smart

angle measurement object to the nearest graphic objects supporting an angle

measurement (paragraph [0050-0052]).

As to claim 11, Pet et al teaches the method according to claim 10, wherein the contours,

circles, spheres, tubes are graphic elements visualizing vessels, the trachea, the oesophagus, or

other hollow anatomical structural elements on said medical image (paragraph [0050]; figure 3,

note that claim 3 teaches a method wherein at least one of said calibrated values, uncertainty values, normative values and degrees of abnormality are visualized.)

The limitation of claims 12-14 has been addressed.

Conclusion

7.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wood et al (US 7,072,501) Is cited to teach a system for displaying anatomical information automatically detected by computer algorithms (computer-aided detection, or CAD), such anatomical information generated by tomographic scanning of the body (i.e., CT, MRI, ultrasound, PET). The CAD system provides for the display of detected objects in any selected viewport and the system is responsive to system user inputs in various display portions of a user interface.

Van Liere et al (2002/0067340) Is cited to teach processing cursor-based user interaction with spatially displayed medical images for producing graphics related data in computer tomography (CT) and MR images or RF images.

8.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to NANCY BITAR whose telephone number is (571)270-1041. The examiner can normally be reached on Mon-Fri (7:30a.m. to 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jinge Wu can be reached on 571-272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jingge Wu/
Supervisory Patent Examiner, Art Unit 2624

Nancy Bitar   9/22/2008